**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class Period\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Ionic Bonding – Exercise 1 – Writing Formulas from Elements or Names**

Instructions

Look up the charges and write them on the chart (copy the chart first)

Criss-Cross and write in the formulas.

Some have been done for you

**Bonding Chart**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **F-1** | **O** | **N** | **Cl** | **S** | **P** |
| **Li+1** | LiF | Li2O |  |  |  |  |
| **Be** |  | BeO | Be3N2 |  |  |  |
| **Al** |  |  |  |  |  |  |
| **Na** |  |  |  |  |  |  |
| **Mg** |  |  |  |  |  |  |
| **K** |  |  |  |  |  |  |
|  | **C2H3O2 -1** | **CO3 -2** | **ClO3** | **H2PO4** | **OH** | **PO3** |
| **Li+1** | LiC2H3O2 | Li2CO3 |  |  |  |  |
| **Mg** |  |  |  |  |  |  |
| **Ga** |  | Ga2(CO3)3 |  |  |  |  |
| **NH4** |  |  |  |  |  | (NH4)3PO3 |
|  | **N-3** | **S-2** | **Br** | **F** | **OH** | **SO4** |
| **Chromium (III)** |  |  |  |  |  |  |
| **Cobalt (III)** |  |  |  |  |  |  |
| **Copper (I)** |  |  |  |  |  |  |

**Binary Practice – Representative & Representative**

1. Lithium Selenide \_\_Li2Se\_\_\_\_ 2. Lithium Bromide \_\_\_\_\_\_\_\_\_\_\_

3. Lithium Iodide \_\_\_\_\_\_\_\_\_\_\_ 4. Beryllium Selenide \_\_\_\_\_\_\_\_\_\_\_

5. Beryllium Bromide \_\_\_\_\_\_\_\_\_\_\_ 6. Beryllium Iodide \_\_\_\_\_\_\_\_\_\_\_

7. Calcium Nitride \_\_\_\_\_\_\_\_\_\_\_ 8. Aluminum Selenide \_\_\_\_\_\_\_\_\_\_\_

9. Gallium Chloride \_\_\_\_\_\_\_\_\_\_\_ 10. Sodium Bromide \_\_\_\_\_\_\_\_\_\_\_

11. Magnesium Iodide \_\_\_\_\_\_\_\_\_\_\_ 12. Indium Sulfide \_\_\_\_\_\_\_\_\_\_\_

13. Thallium Nitride \_\_\_\_\_\_\_\_\_\_\_ 14. Rubidium Chloride \_\_\_\_\_\_\_\_\_\_\_

15. Potassium Selenide \_\_\_\_\_\_\_\_\_\_\_ 16. Strontium Sulfide \_\_\_\_\_\_\_\_\_\_\_

17. Strontium Nitride \_\_\_\_\_\_\_\_\_\_\_ 18. Aluminum Bromide \_\_\_\_\_\_\_\_\_\_\_

19. Sodium Selenide \_\_\_\_\_\_\_\_\_\_\_ 20. Magnesium Bromide \_\_\_\_\_\_\_\_\_\_\_

**Polyatomic Practice – Representative & Polyatomic Mixed**

21. Lithium Arsenate \_\_Li3AsO4\_\_ 22. Beryllium Arsenite \_\_\_\_\_\_\_\_\_\_\_

23. Sodium Bicarbonate \_\_\_\_\_\_\_\_\_\_\_ 24. Magnesium Bisulfate \_\_\_\_\_\_\_\_\_\_\_

25. Aluminum Bisulfite \_\_\_\_\_\_\_\_\_\_\_ 26. Potassium Borate \_\_\_\_\_\_\_\_\_\_\_

27. Calcium Chlorite \_Ca(ClO2)2\_ 28. Gallium Chromate \_\_\_\_\_\_\_\_\_\_\_

29. Rubidium Cyanate \_\_\_\_\_\_\_\_\_\_\_ 30. Strontium Cyanide \_\_\_\_\_\_\_\_\_\_\_

31. Indium Dichromate \_\_\_\_\_\_\_\_\_\_\_ 32. Cesium Ferricyanide \_\_\_\_\_\_\_\_\_\_\_

33. Barium Ferrocyanide \_\_\_\_\_\_\_\_\_\_\_ 34. Thallium Hypochlorite \_\_\_\_\_\_\_\_\_\_\_

35. Ammonium Oxalate \_\_\_\_\_\_\_\_\_\_\_ 36. Ammonium Perchlorate \_\_\_\_\_\_\_\_\_\_\_

37. Lithium Peroxide \_\_\_\_\_\_\_\_\_\_\_ 38. Beryllium Silicate \_\_\_\_\_\_\_\_\_\_\_

39. Sodium Sulfite \_\_\_\_\_\_\_\_\_\_\_ 40. Magnesium Thiosulfate \_\_\_\_\_\_\_\_\_\_\_

**Transition Practice – Representative & Polyatomic & Transition Mixed**

41. Chromium (III) Phosphate \_\_\_\_\_\_\_\_\_\_ 42. Nickel (III) Bromide \_\_\_\_\_\_\_\_\_\_

43. Cobalt (II) Phosphide \_\_\_\_\_\_\_\_\_\_ 44. Mercury (II) Phosphide \_\_\_\_\_\_\_\_\_\_

45. Gold (III) Oxide \_\_\_\_\_\_\_\_\_\_ 46. Manganese (II) Selenide \_\_\_\_\_\_\_\_\_\_

47. Copper (I) Carbonate \_\_\_\_\_\_\_\_\_\_ 48. Iron (III) Acetate \_\_\_\_\_\_\_\_\_\_

49. Manganese (IV) Silicate \_\_\_\_\_\_\_\_\_\_ 50. Chrome (II) Iodide \_\_\_\_\_\_\_\_\_\_

51. Mercury (I) Phosphide \_\_\_\_\_\_\_\_\_\_ 52. Cobalt (III) Phosphide \_\_\_\_\_\_\_\_\_\_

53. Manganese (III) Hydroxide \_\_\_\_\_\_\_\_\_\_ 54. Nickel (II) Chloride \_\_\_\_\_\_\_\_\_\_

55. Chromium (VI) Sulfite \_\_\_\_\_\_\_\_\_\_ 56. Manganese (VII) Sulfite \_\_\_\_\_\_\_\_\_\_

57. Copper (II) Phosphide \_\_\_\_\_\_\_\_\_\_ 58. Gold (I) Iodide \_\_\_\_\_\_\_\_\_\_

59. Iron (II) Chloride \_\_\_\_\_\_\_\_\_\_ 60. Nickel (III) Thiosulfate \_\_\_\_\_\_\_\_\_\_

**Formula Practice – Random questions from the last three sections**

1. Chromium (II) Borate \_\_\_\_\_\_\_\_\_\_
2. Cobalt (III) Thiosulfate \_\_\_\_\_\_\_\_\_\_
3. Iron (III) Oxide \_\_\_\_\_\_\_\_\_\_
4. Lead (II) Sulfate \_\_\_\_\_\_\_\_\_\_
5. Antimony (III) Sulfide \_\_\_\_\_\_\_\_\_\_
6. Cobalt (III) Sulfide \_\_\_\_\_\_\_\_\_\_
7. Ammonium Sulfite \_\_\_\_\_\_\_\_\_\_
8. Magnesium Dihydrogen Phosphate\_\_\_\_\_\_\_\_\_\_
9. Ammonium Bromide \_\_\_\_\_\_\_\_\_\_
10. Barium Peroxide \_\_\_\_\_\_\_\_\_\_
11. Potassium Thiocyanate \_\_\_\_\_\_\_\_\_\_
12. Lithium Arsenate \_\_\_\_\_\_\_\_\_\_
13. Aluminum Ferrocyanide \_\_\_\_\_\_\_\_\_\_
14. Sodium Hydroxide \_\_\_\_\_\_\_\_\_\_
15. Ammonium Arsenate \_\_\_\_\_\_\_\_\_\_
16. Sodium Nitride \_\_\_\_\_\_\_\_\_\_
17. Sodium Nitrite \_\_\_\_\_\_\_\_\_\_
18. Magnesium Chloride \_\_\_\_\_\_\_\_\_\_
19. Potassium Sulfate \_\_\_\_\_\_\_\_\_\_
20. Ammonium Carbonate \_\_\_\_\_\_\_\_\_\_

**Ionic Bonding – Exercise 2 – Writing Names from Formulas**

**Instructions –** Write the names of the compounds below. Use the spellings below to help. Use the polyatomic ion chart on the second part. Use the Transition Element Chart on the third part.

Nitrogen = Nitride Sulfur = Sulfide Oxygen = Oxide Chlorine = Chloride Fluorine = Fluoride

Selenium = Selenide Bromine = Bromide Iodine = Iodide Phosphorus = Phosphide

**Representative Ions Only**

1. LiF \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. LiCl \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Li2O \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Li2S \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Li3N \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. BeCl2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. BeBr2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. BeI2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. BeO \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. Be3P2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. BF3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. BCl3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. BBr3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. Na2O \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
15. Na2S \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
16. Na3N \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
17. Na3P \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
18. KF \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
19. K2S \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
20. Ca3N2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Mix of Representative Ions & Polyatomic Ions**

1. NH4OH \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. NH4C2H3O2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_
3. NH4NO3\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. (NH4)2CO3\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_
5. (NH4)3PO4\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_
6. LiOH \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. LiC2H3O2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. Li2CO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_
9. Li2SO4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. Li3PO4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. Be(OH)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. Be(ClO3)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. Be(NO3)2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. Be(C2H3O2)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_
15. BeSO4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
16. Be3(PO4)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_
17. B(OH)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
18. B(C2H3O2)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_
19. B2(SO4)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
20. BPO4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Mix of Representative Ions & Polyatomic Ions & Transition Ions**

1. CrSe \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. CrO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. CoN \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. CuCl \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. AuCl3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Fe3P2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. MnF7 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. Hg2O \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. NiS \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. NiCl3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. CrN \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. CoI2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. Cu3N2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. Au3P \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
15. Fe2Se3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
16. MnF2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
17. HgCl2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
18. MnP \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
19. MnO2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
20. NiN \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Mixed Practice – This part is what your test will look like**

1. Ca(OH)2  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_
2. K2Cr2O7 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. (NH4)2SO4\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. CuSO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Fe(NO3)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. HgCl \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Mn(OH)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. CrAsO4 \_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. CrF2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. Na2SiO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. Sb2S5 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. Al(BrO3)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. Bi2O3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. AuI \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_